What is claimed is:

1. (Amended) A method of heat-drilling holes into ice, comprising the steps of:

forming a substantially pre-bore hole of small diameter with a melt-wash drill head;

positioning a melt-wash drill head of larger diameter on the pre-bore hole;

heating water as a heat carrier on the surface of the ice;

controlled pumping under pressure of the hot water into the melt-wash drill head;

deflecting the hot water in the range of the melt-wash drill head into a radial plane;

washing the hot water as a sharp disk-like jet circumferentially radially against the wall of the bore hole whereby the hot water is mixed with melt water and pressed into the direction of the surface of the ice;

lowering of the melt-wash drill head for forming a main bore hole; and

dissipating by seepage or pumping the hot water pressed in the direction of the surface of the ice and mixed with the melt water.

Claims 2 - 11 cancelled.

12. (New) The method of claim 1, wherein the water is heated to temperatures up to 90 °C.

13. New) The method of claim 1, wherein the controlled pumping takes place under pressure in the range of up to 10^7 Pa.

14. (New) The method of claim 1, further comprising the steps of washing out a cavern of a depth of up to 50 meters with the wash water and pumping the

wash water mixed with melt water into the cavity for dissipation by seepage. with the wherein of Cancel claims 2 - 11 and add the new claims appended

15. (New) The method of claim 1, further comprising the step of inserting a cylindrical guide element into the main bore hole to the transition range between the lower edge of the ice and the sea.

16. (New) An apparatus for heat drilling holes into ice, comprising:
a combination melt-wash drill head adapted to be heated by hot water and comprising an upper end section provided with an axial water input, a lower end section comprising a melt section of substantially hemispherical configuration and, intermediate the water input and the melt section, a water output connected to the water input and structured as of narrow azimuthally circumferential annular gap; and

means for lowering and hoisting supplies.

17. (New) The apparatus of claim 16, wherein the azimuthally circumferential gap has a width in the range of 1 mm.

18. (New) The apparatus of claim 16, wherein the drill head is made of copper.

19. (New) The apparatus of claim 16, wherein below the gap the drill head is provided with a hollow chamber and wherein a plurality of vanes with large surfaces thereof connected to the gap is provided within the chamber.

20. (New) The apparatus of claim 16, wherein the drill head is made from a plurality of radial layers.

21. (New) The apparatus of claim 20, wherein the layers are hydraulically

clamped together.

22. (New) The apparatus of claim 16, further comprising a hose for feeding hot water into the water input.

23. (New) The apparatus of claim 22, further comprising a cable for hoisting and lowering the drill head.

24. (New) The apparatus of claim 23, wherein the hose and the cable form a unit.